

National
Aeronautical
Laboratory

Documentation Sheet

Document
Classification:
Restricted

Title : STATIC TESTING OF DO-228
COMPOSITE RUDDER

Document No. PD ST 9047

Date of Issue: Nov. 1990

Authors :

R. GOPALAN
M. A. FAROOK
B. RAMANIAH

Contents

Pages: 8
Tables: 1
Figures: 9

Division : Structural Sciences Division

No. of Copies 25


External : NAL - DLR
participation COLLOBORATIVE PROJECT

NAL Project No.
ST-5-101

Sponsor :

Sponsors project
No. ---

Approval :



Remarks :

Keywords : COMPOSITES, RUDDER, STATIC TESTING, DESIGN LOAD

Abstract :

Preliminary Static Tests were conducted on the CFRP composite rudder for DO-228 aircraft developed under NAL/DLR collaborative project. The results are reported in PD ST-9002. These tests revealed, the necessity to reinforce some of the whiffle tree members, increase in canvas pad area, etc. Tests were carried out after incorporating these deficiencies. The composite rudder was loaded upto the ultimate load of 840 kgs, and the load Vs deflection behaviour was obtained. The rudder successfully withstood the design load without failure, and hence it has qualified for flight trials. This report presents the details.